

MANIPAL INSTITUTE OF TECHNOLOGY MANIPAL

A Constituent Institution of Manipal University

VI SEMESTER B.TECH. (CIVIL ENGINEERING) END SEMESTER EXAMINATIONS, JUNE/JULY 2017 SUBJECT: RESOURCE MANAGEMENT [CIE 4004] REVISED CREDIT SYSTEM

(/0 /2017)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

✤ Answer ALL questions.

✤ Missing data may be suitably assumed.

| 1A. | How different is the concept of material management in construction industry compared w manufacturing industry? Justify for the need of integrated concept of material management | | | | | | | | | | | 03 |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------|----------------------------------------|-----------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----|-----|----|
| | in construction industry | | | | | | | | | | | |
| 1B. | Item No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| | Units used | 1500 | 20000 | 1500 | 1200 | 18000 | 1575 | 14000 | 30000 | 900 | 150 | 07 |
| | Unit Price (×10 ³ INR) | 20 | 1.25 | 400 | 30 | 1.2 | 345 | 7.5 | 0.65 | 90 | 280 | |
| | Classify the material items given in the above table into ABC. Base your classification decision with graphical representation and, also, indicate the monitor and control policies for each type of item. | | | | | | | | | | | |
| 2A. | Explain the stages of Quality Function Deployment (QFD) process. | | | | | | | | | | | 03 |
| | The data for p below. Sugges employed to r optimal requirement. | orice of st a su negotiat storage | a constr itable st te the fl Mon 1 2 | ruction rategy uctuation th F | materia betwee on in p Price 516 514 | al for a p en conse rices if <u>Month</u> 13 14 | project p ervative monthly P F 5 | period of and hin require rice 596 584 | od of two years is tabulated I hindsight strategies to be quirement is 250 units and capacity is 3 months' | | | |
| 2B. | | | 3 | 3 | 539 | 15 | 5 | 582 | | | | |
| | | | 4 | | 569 | 16 | 5 | 590 | | | | 07 |
| | | | 5 | | 540 | 17 | 17 ! | 586 | | | | |
| | | | 6 | | 577 | 18 | 5 | 599 | | | | |
| | | 7 | | 557 | 19 | 5 | 524 | | | | | |
| | | 8 | | 552 | 20 | 5 | 555 | | | | | |
| | | 9 | | 548 | 21 | 5 | 533 | | | | | |
| | | 10 | | 595 | 22 | 5 | 516 | | | | | |
| | | | 11 | | 562 | 23 | 5 | 597 | | | | |
| | | | 12 | | 540 | 24 | 5 | 598 | | | | |
| 3A. | How purchase of capital equipment is significantly different from that of consumables? | | | | | | | | | | | 03 |
| 3B. | Demonstrate the significance of the deviation index for the following time series data using moving average method for N=3 and weighted moving average for N=3 $(0.3, 0.3, 0.4)$. | | | | | | | | | | | 07 |
| | $\frac{100000}{1000000}$ | | | | | | | | | | | |

Reg. No.



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4 5 6 7 1 2 3 8 9 10 Month 17000 Year-1 18500 16700 18600 18900 15800 18600 17400 19000 16500 Year-2 16600 17500 15250 18450 16700 16500 17500 18400 19000 17350 What is a cause-and-effect-diagram? List the steps for constructing it showing the general 05 4A. structure. What are the applications of a control chart? A construction company is considering to purchase a scrapper by investing a capital of Rs. 63 lakhs. Average annual returns expected out of the equipment is Rs. 78.75 lakhs and average annual expenditure on equipment is Rs. 56.7 lakhs. If life of the scrapper is 6 years 05 4B. and salvage value is 10% of the initial investment, i) compute the economic analysis using Payback period and Return of Investment method ii) comment on the profitability of the equipment by Internal Rate of Returns method with r=14% and 15%. 02 List the components of cost of quality. 5A. Explain the following giving examples relevant to a construction project: i) Performance ii) 05 5B. Features iii) Reliability iv) Conformance v) "voice of the customer". 03 5C. Illustrate the House of Quality mentioning all components.